

[0052]

Table 1

	Unit	Example 11	Comparative Example 11	Example 21	Example 22	Example 23	Example 24
Adhesive (as metal element)	mol%	Mg: 3.5		Y: 1.8	Y: 5	Y: 3	Ce: 8.1
Firing temperature	°C	1800		1900	1900	1900	1750
Porosity	%	0		0	0	0	0
Density	g/cm <sup>3</sup>	3.18		3.20	3.22	3.52	—
Orientation index between corrosion-resistant face and auxiliary face		1.55		3.16	3.19	3.01	2
Orientation index between two auxiliary faces		0.99	Auxiliary face in Example 11 exposed	1.02	0.99	0.98	1.1
Coefficient of thermal expansion	ppm/°C	3.1		3.1	3.2	3.4	3.3
Thermal conductivity	W/mK	30		37	40	45	33
Four-point bending strength	MPa	890		790	720	780	900
Volume resistivity	Ωcm	>1E+16		2.E+15	>1E+16	1.E+07	—
Content of elements in Group 1a in sintered body	Wt ppm	3		2	6	2	9
Content of elements in Group 4a-3b	Wt ppm	34		16	25	14	18
Content of F	Wt ppm	2		<1	<1	<1	<1
Content of Cl	Wt ppm	66		33	35	63	59
Weight reduction due to corrosion with NF <sub>3</sub>	μm/hr	9	17	1.5	1.5	3	9
NF <sub>3</sub> corroded state	μm/hr	condensed	—	conspicuous	conspicuous	conspicuous	conspicuous
NF <sub>3</sub> sputtered state	μm/hr	good	—	good	good	good	good
Weight reduction due to corrosion with Cl <sub>2</sub>	μm/hr	1.8	4	0.9	1.7	1	0.9
Cl <sub>2</sub> corroded state		condensed	—	conspicuous	conspicuous	conspicuous	conspicuous

[0059]

Table 2

	Unit	Example 25	Example 26	Comparative Example 21	Comparative Example 22	Comparative Example 23	Comparative Example 31
Adhesive (as metal element)	mol%	Sm: 4	La: 5.2	Y: 5 and Al: 3.5	Y: 0.5	Zr: 4.5 and Al: 8.2	Si: 20
Firing temperature	°C	1850	1850	1750	1900	1750	2000
Porosity	%	1	0	0	8	2	1
Density	g/cm <sup>3</sup>	3.19	3.22	—	3.11	3.20	3.12
Orientation index between corrosion-resistant face and auxiliary face		2.5	2.7	1.7	1.2	1.1	1.3
Orientation index between two auxiliary faces		1.03	0.99	1.04	1.03	0.98	1.02
Coefficient of thermal expansion	ppm/°C	3.3	3.3	3.4	3.1	—	3
Thermal conductivity	W/mK	26	31	25	12	—	—
Four-point bending strength	MPa	700	730	750	620	560	600
Volume resistivity	Ωcm	—	—	—	1.0E±16	—	—
Content of element in Group Ia in sintered body	Wt ppm	2	3	40	10	9	about 600
Content of element in Group 4a-3b	Wt ppm	22	35	about 50000	43	about 30000	230
Content of F	Wt ppm	<1	<1	—	—	—	—
Content of Cl	Wt ppm	35	43	—	—	—	—
Weight reduction due to corrosion with NF <sub>3</sub>	μm/hr	5	4	11	22	20	20
NF <sub>3</sub> corroded state	μm/hr	conspicuous	conspicuous	conspicuous	slight	slight	not condensed
NF <sub>3</sub> sputtered state	μm/hr	good	good	conspicuous	good	conspicuous	**
Weight reduction due to corrosion with Cl <sub>2</sub>	μm/hr	0.8	1.2	23	18	30	30
Cl <sub>2</sub> corroded state		conspicuous	conspicuous	conspicuous	slight	slight	not condensed

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